Editorial

Sustainable development has become a buzzword, especially following the Johannesburg Summit held last year. This century may well be labelled the "Green Century," as we seek green industry, green transportation, green energy, etc. Although a disarmingly simple concept, implementing the concept is fraught with serious challenges. It is estimated that it takes over 14 months for the earth to regenerate what 6.1 billion people consume every year in terms of bio-matter. About 2.5 billion people have no access to modern energy resources; energy needs will increase at about 2.5% per year in the developing world alone. If this energy need is met by burning fossil fuels like oil, gas, biomass, etc. additional greenhouse gases will enter the atmosphere causing further global warming and disastrous climate changes. Clearly, there is need to re-visit renewable energy sources as many countries are doing already.

We all know that drying is a highly energy-intensive operation, consuming from 10-25% of national industrial energy in the developed world. We also are painfully aware of the low energy efficiency at which a majority of industrial dryers operate currently - from an appalling 10% to a respectable 60%. There is clearly scope for improvement. Designing better dryers and operating them optimally is a part of the solution. However, we must also evaluate, where possible, the opportunities for use of renewable energy sources, e.g., solar (including photo-voltaics), wind, geothermal, etc.) De-carbonization will be the catch phrase of the coming decades as attempts are made to switch from fossil fuels to "green" sources. The car industry is making rapid inroads in this area. The "well-to-wheel" overall efficiency of car engines is being studied critically. The result is a new breed of "hybrid" car engines with remarkably high efficiency compared to the current engines. Can we think of a new breed of eco-friendly dryers that can legitimately be called "green dryers"? This will be the truly "disruptive" technology we really need.

With fossil fuel costs at current levels it is unlikely we will see any revolutionary changes to drying technologies. However, with legislative support by governments around the world clean energy will come in vogue within the next decade or two. Worldwide solar and wind energy output is growing at 30% per annum but that is because of the low base rate. One clear indication of the coming age of renewable energy sources is the massive influx of funds being devoted to renewable energy resources by some of the world's largest oil companies. The trend towards lower-carbon world is expected to grow. I hope that we try to do our modest share of effort towards sustainable development by improving drying technologies and making them more eco-friendly. Also, perhaps there is need to develop equipment standards against which various designs can be compared so the clients or users of drying equipment have a benchmark to compare against.

Arun S. Mujumdar
Editor-in-Chief